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AUTHOR Brady-Ciampa, Bartholomew
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ABSTRACT

The use of a strategic planning model to integrate a computer literacy component into an established general education program is illustrated. Key issues are identified at each planning model stage, which consists of: identifying appropriate goals, writing objectives, developing an action plan, identifying options/alternatives, identifying contingencies/parameters, consulting with college constituencies, implementing the plan, and evaluating the progress of the plan. The outline includes questions that need to be addressed, including: whether goals are consistent with the institution's mission and resources; how many credits should be offered; which division and faculty members should be involved; when faculty inservice workshops should be scheduled; and when computer-related courses should be offered. Considerations and options that may be followed for each of these questions are also listed. In addition, the specific administrators and groups within the campus that need to be consulted are identified. Finally, evaluation areas are specified, including student demand, content covered, and instructor analysis of course's effectiveness. A flowchart of the planning process is included. (SW)

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A MODEL
FOR THE INTEGRATION OF
A COMPUTER LITERACY COMPONENT
INTO THE GENERAL EDUCATION CURRICULUM

by

Bartholomew Brady-Ciampa, Ph.D.
Dean, Wayne State College
Wayne, Nebraska

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Abstract of

A Model for the Integration of a Computer Literacy Component into the General Education Curriculum

A recent news magazine presented some sobering statistics regarding the escalating rate of microcomputer sales and the concomitant impact of the high technology "explosion" upon the general public. As a result, colleges must seriously consider the likelihood of computer literacy becoming, in fact, a "basic skill" ranking in importance with communication, quantification, analysis, and synthesis skills.

How, then, are colleges to proceed in order to insure that their graduates are competent to succeed in a society fast becoming computer-interdependent?

In addition, what steps must be taken to provide a basis of understanding throughout the entire college community toward justifying possible resource re-allocation in times of budgetary constraint?

This paper describes a procedure for utilizing a Strategic Planning Model toward integrating a computer literacy component into an established general education curriculum.

Topics to be discussed related to computer literacy include: Identifying Appropriate Goals; Writing Appropriate Objectives; Developing a Plan of Action; Identifying Appropriate Options/Alternatives; Identifying Contingencies/ Parameters; Consulting with Appropriate College Constituencies; Implementing the Plan; and Evaluating the Progress of the Plan.

Introduction

During the past three years approximately five million personal computers have been sold. In addition, millions of units have been utilized in business, industry, and the professions.[1] A recent poll, for example, indicated that nearly 80 percent of Americans expect that home computers will soon be as common as television sets.[2] If, in fact, this prediction is only marginally accurate this perception, when extrapolated to the general populace, may prove to be a self-fulfilling prophecy.

It is virtually impossible for an individual to keep up with the day-to-day advances of the high technology "explosion" because of the many thousands of computer-related products being developed and marketed through myriad companies and private individuals.

Micro-computer applications revolve around variations on the two basic themes of: 1) extremely rapid computation and; 2) storing, sorting through, and retrieving immense amounts of information. These applications are virtually infinite in number and are limited only by the boundaries of human imagination and creativity. The versatility of micro-computer applications, for example, can only begin to be understood after examining such areas as: voice synthesization; musical composition; text to speech conversion, three-dimensional holographic imaging; military applications; climate control/ energy system monitoring; multi-sensory and electromechanical robotics; medical therapy, diagnosis, and research; educational applications; trend analysis; word processing; inventory management; communications linking;

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[1] "The Computer Moves In," Time. January 3, 1983, pp. 14-24.

[2] Survey conducted by firm of Yankelovich, Skelly, and White of 1019 registered voters during December, 1982, sampling error of ± 3%. Reported in Time, January 3, 1983, p. 14.

data-base access; agri-business applications; weather forecasting; electronic message systems; and bionics.

With these incredibly sophisticated applications currently underway what, then, can we predict for the future? Or, rather, how can we account for the futurity of our present decisions, as Peter Drucker might say?

The fact of the matter is that relatively few institutions of higher education are providing even the barest essentials to insure that all of their graduates are computer literate and therefore prepared to compete in an increasingly computer interdependent society.

It should be noted that there are differing points of view regarding higher education's role in the high technology arena. However, this is not the issue here. For, if in fact computer literacy is rapidly becoming a sine qua non, then perhaps it should be viewed as a basic skill in much the same light as communication, quantification, analysis, and synthesis skills.

The following paper describes a step-by-step procedure for utilizing a Strategic Planning Model (see Appendix) toward integrating a computer literacy component into the general education curriculum.

Key issues are raised at each Planning Model stage to insure that as many potential problem areas as possible are addressed.

These issues should be considered by a broadly-based constituent group to provide for appropriate consultation with faculty, students, and administrators. In addition, relevant data should be continuously gathered and updated to supplement the existing institutional knowledge base.

Strategic Planning Outline

1.0 Identify the Goals of the Institution

1.1 Are the goals consistent with the institution's mission?

1.2 Are the goals consistent with the institution's resources?

2.0 Write the Objectives (Control Standards) of the Project

2.1 Are the objectives feasible?

3.0 Develop a Plan of Action

4.0 Identify Any Appropriate Options or Alternatives

5.0 Identify Any Contingencies or Parameters

5.1 Are the contingencies or parameters surmountable?

6.0 Continue to Consult the Appropriate College Constituencies

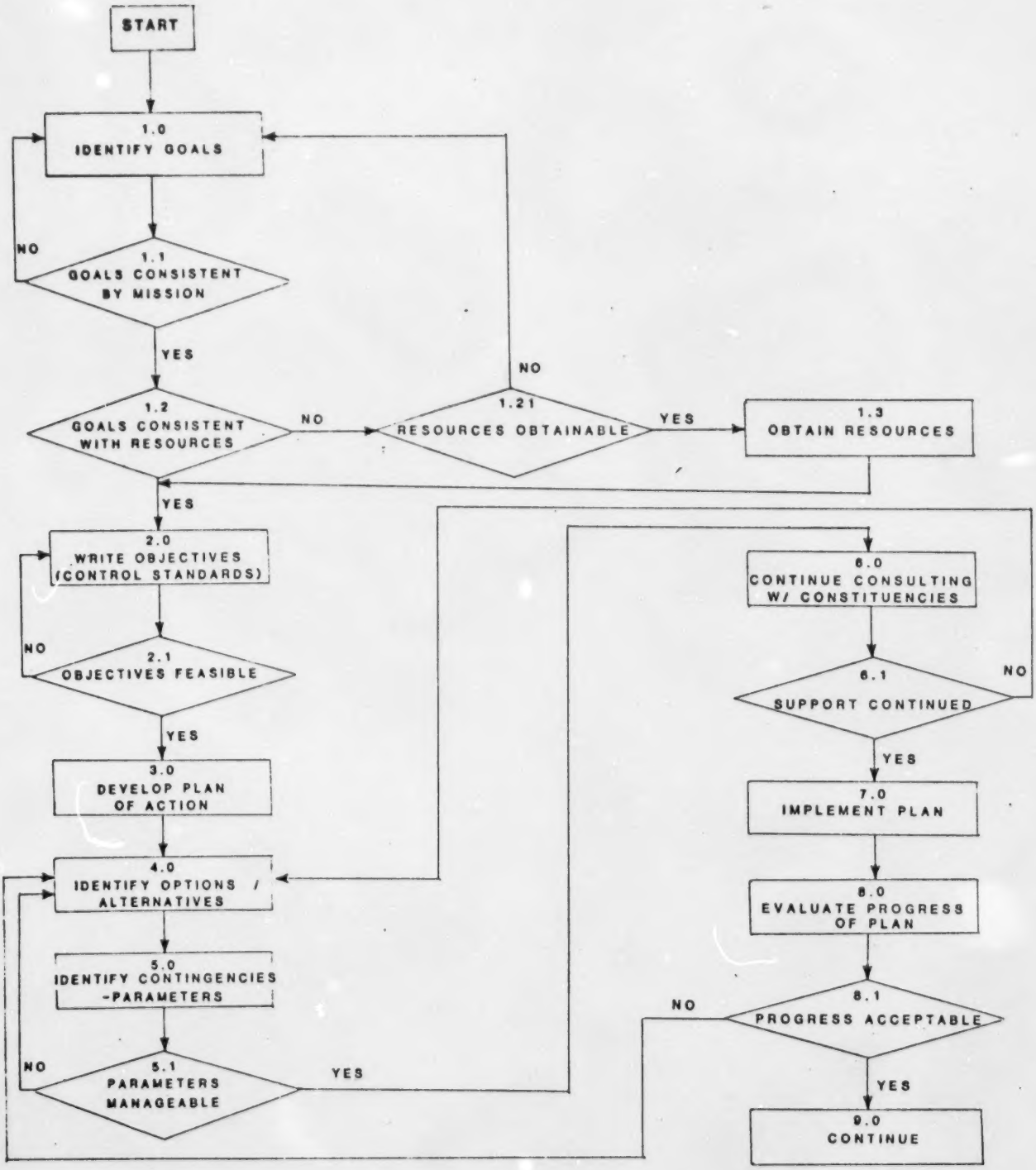
6.1 Is support continuing?

7.0 Implement the Plan of Action

8.0 Evaluate the Progress of the Plan

8.1 Is this progress acceptable in terms of quality and timing?

9.0 Continue with the Project until Conclusion


START
1.0
IDENTIFY GOALS
1.1
GOALS CONSISTENT
BY MISSION
NO
YES
1.2
GOALS CONSISTENT
WITH RESOURCES
NO
1.21
RESOURCES OBTAINABLE
YES
NO
1.3
OBTAIN RESOURCES
YES
2.0
WRITE OBJECTIVES
(CONTROL STANDARDS)
NO
2.1
OBJECTIVES FEASIBLE
YES
3.0
DEVELOP PLAN
OF ACTION
4.0
IDENTIFY OPTIONS /
ALTERNATIVES
5.0
IDENTIFY CONTINGENCIES
-PARAMETERS
NO
5.1
PARAMETERS
MANAGEABLE
YES
6.0
CONTINUE CONSULTING
W/ CONSTITUENCIES
6.1
SUPPORT CONTINUED
NO
YES
7.0
IMPLEMENT PLAN
8.0
EVALUATE PROGRESS
OF PLAN
8.1
PROGRESS ACCEPTABLE
NO
YES
9.0
CONTINUE

1.0 Identify Goal(s)

To improve the computer literacy of the _____ College community and the _____ regional populace.

1.1 Goal(s) are consistent with the College's Mission Statement of (date).

1.2 Goal(s) are consistent with current and projected College resources.

2.0 Write Objectives

1.) To offer a pilot course to the institution's students toward implementing a computer literacy general education requirement.

2.) To offer an in-service workshop to the institution's faculty and staff toward up-grading computing expertise.

3.) To offer computer-related courses in the College's service region to in-service professional educators through the Extended Campus or Continuing Education Division.

4.) To offer computer-related courses on the College campus through the Extended Campus or Continuing Education Division whenever feasible.

2.1 Objectives must be considered feasible in order to proceed.

3.0 Develop Plan of Action

1.) Schedule an experimental course through an appropriate component for (date). Number of credits? Instructor? Division?

2.) Schedule a Faculty In-Service Workshop for (date) from (time) and subsequent (dates).

3.) Schedule Extended Campus computer-related courses for Summer, Fall, and Winter semesters in the College's service region.

4.) Schedule Extended Campus computer-related courses for (coming semester) on the College campus.

4.0 Identify Options/Alternatives

1.) Pilot course may be taught through a specific division of instruction; through an interdisciplinary approach; through the general studies option; for one, two, or three credits; taught by an instructor with or without specific full-time divisional affiliation. Several options exist regarding the approach to the subject matter.

2.) Faculty In-service Workshop may take several forms: general overview; available College services; programming; team taught; division-specific; time and duration also optional. Alternative: contract with external consultant to provide workshop services.

3.) Options include multitudinous service area locations; regular teaching faculty available; different courses available; different semesters available; mode or formats may be varied; adjunct faculty may be considered.

4.) Options include specific courses; different instructors; various formats.

5.0 Identify Contingencies/Parameters

1.) Availability of faculty FTE; Availability of computing resources; Availability of resources for teaching materials e.g. software, self-instruction modules.

2.) Availability of instructors; faculty/staff interest level; faculty/staff expertise level desired; convenience of time slot; possibility of offering multiple sections; availability of and accessibility to computer facilities; funds available regarding software, course materials.

3.) Availability of Extended Campus or Continuing Education resources; Availability of suitable faculty; limitations of Master Union Contract; Availability of computing resources; Interest level of area in-service professionals; Expertise level of area in-service professionals; Saturation level of various locations; Weather-related travel consideration; Adapta-

bility of courses to all-day workshop format.

4.) Appropriateness of specific course levels; Available FTE faculty; Limitations of Master Union Contract; Accessibility of computing resources; Availability of Extended Campus or Continuing Education resources; on-campus population characteristics during particular semesters; Adaptability of courses to traditional scheduling format.

5.1 Contingencies and parameters must be considered surmountable in order to proceed.

6.0 Continue Consulting with Constituencies

1.) Discussions with Computer Policy Committee; Academic Policies Committee; Faculty Senate; Division Heads; Computer Science Faculty; Director of Management Information Systems; Teacher Education Committee; appropriate chairpersons and Deans, etc.

2.) Discussions with Director of Management Information Systems; Division Heads; workshop instructors; appropriate chairpersons and Deans; etc.

3.) Discussions with in-service professionals; Extended Campus or Continuing Education Office; faculty members; respective Division Heads.

4.) Discussions with Extended Campus or Continuing Education Office; faculty members; respective Division Heads.

7.0 Implement Plan

1.) Target date of (date).

2.) Target date of (date).

3.) Target date of (date).

4.) Target date of (date).

8.0 Evaluate Progress of Plan

1.) Consider student demand; content covered; instructor analysis of course's effectiveness; integration into general education curriculum;

consider student feedback.

2.) Consider motivation level of faculty/staff; instructor's analysis of effectiveness of team approach; content covered; consider faculty/staff feedback; persistence of "core" group.

3.) Consider student feedback; enrollment levels; instructor analysis; integration into regular curriculum.

4.) Consider student feedback; enrollment levels; instructor analysis; integration into regular curriculum.

9.0 Continue

1.) Move toward computer-literacy course requirement in general education curriculum.

2.) Move toward establishing on-going faculty in-service seminars/ workshops or a "center for faculty renewal."

3.) Move toward wider coverage and more qualitative offerings; move toward course sequences.

4.) Move toward greater integration with regular curriculum offerings; move toward increased levels of funding.

Conclusion

Effective Strategic Planning is rapidly becoming a prerequisite toward maintaining the viability of an institution of higher education's academic as well as administrative functions. However, in order to insure the success of any planning that directly involves the academic constituency of an institution, care must be taken to establish as broad a basis of support as possible.

This may be accomplished in several ways depending upon the institution's administrative as well as academic governance structure.

Participatory representation of influential and administratively insightful

faculty members (not to mention academically competent) from various disciplines is highly desirable. Generalists as well as specialists should be involved and the group should be chaired by a person having broad institutional authority and a comprehensive understanding of resource allocation.

Convening such a committee and successfully orchestrating its activities without engendering defensiveness on the part of the faculty-at-large is a formidable task.

This is especially true since most administrators assume that the "rules" of strategic planning are the same whether the model being used is applied toward strictly administrative ends or is superimposed over academic problem areas. To make this assumption, I believe, is to violate the very essence of collegial governance thus resulting in counter-productivity.

The Strategic Planning Model included in this paper has been successfully applied to a diverse array of institutional issues. The success, I believe, is a direct result of the institution's administrative sensitivity to the faculty's academic prerogatives and curricular responsibilities.